

AMENDMENTS TO THE CLAIMS

Please amend the claims as set forth in marked-up form below. This listing of claims will replace all prior versions, and listings, of claims in the application.

Listing of Claims:

1. (Currently Amended) A tissue puncture closure assembly, comprising:

a closure device having a distal and a proximal end;

a block and tackle disposed in the closure device and, a portion of the block and tackle
being anchored to the proximal end;

a first filament extending from the block and tackle;

an anchor attached to the first filament at the distal end of the tissue puncture closure device;

a sealing plug attached to the first filament between the anchor and the block and tackle;

wherein the block and tackle is configured to provide a mechanical advantage to move the sealing plug and the anchor together when the anchor is held in a fixed position, wherein the mechanical advantage comprises a ratio greater than 1:1 between an output force used to move the sealing plug and the anchor together and an input force applied to the closure device, wherein the block and tackle is spaced proximally of the anchor[[],] and the sealing plug,~~and the first filament.~~

2. (Original) The tissue puncture closure assembly according to claim 1 wherein the block and tackle comprises:

a plate having a plurality of holes disposed therein;

a second filament anchored to the proximal end of the closure device and looping through at least two of the plurality of holes.

3. (Original) The tissue puncture closure assembly according to claim 2 wherein the second filament terminates with a pull-tab extending from the proximal end of the tissue puncture closure device.

4. (Original) The tissue puncture closure assembly according to claim 2 wherein the plate further comprises at least two risers to space the second filament looping through the plurality of holes.

5. (Original) The tissue puncture closure assembly according to claim 2 wherein the first filament is slidingly attached to the anchor and the sealing plug.

6. (Original) The tissue puncture closure assembly according to claim 5 wherein the first filament extends distally from the block and tackle through the sealing plug and the anchor, back proximally toward the block and tackle, and is tied onto itself in a slip knot disposed between the block and tackle and the sealing plug.

7. (Original) The tissue puncture closure assembly according to claim 2 wherein the plurality of holes comprises three holes.

8. (Original) The tissue puncture closure assembly according to claim 1 wherein the first filament, the sealing plug, and the anchor are biologically resorbable.

9. (Original) The tissue puncture closure assembly according to claim 1, further comprising an insertion sheath receptive of the closure device, the insertion sheath comprising a flexible tube with a hemostatic valve at a proximal end and a one-way anchor valve at a distal end.

10. (Original) The tissue puncture closure assembly according to claim 9 wherein the one-way anchor valve comprises a fold in the distal end of the flexible tube.

11. (Currently Amended) An internal incision sealing device comprising:

an internal component configured to be positioned against an internal portion of an incision;

an external component configured to be positioned at an external portion of the incision, wherein the external component is attached to the internal component by a first slip-knotted filament such that tension on the first filament compresses the internal component and external component together; and

a block and tackle disposed within the internal incision sealing device and operatively connected to the internal and external components, the block and tackle being configured to provide a mechanical advantage to move the internal and external components together when the internal component is positioned against the internal portion of the incision, wherein the mechanical advantage comprises a ratio greater than 1:1 between an output force used to move the internal and external components together and an input force applied to the device, wherein the block and tackle is positioned proximally of the internal and external components ~~and the first filament.~~

12. (Original) An internal incision sealing device according to claim 11 wherein the block and tackle creates a mechanical advantage such that the tension on a second filament traversing the block is multiplied and applied to the first filament, causing the slip knot to slide and compress the internal and external components together across the incision.

13. (Original) An internal incision sealing device according to claim 11, wherein the internal incision is an arteriotomy.

14. (Previously Presented) An internal incision sealing device according to claim 11, wherein the block and tackle includes a second filament that is fixed to a cap of the sealing device at a first end, and free at a second end.

15. (Original) An internal incision sealing device according to claim 14 wherein the second end further comprises a pull-tab.

16. (Previously Presented) An internal incision sealing device according to claim 14 wherein the block and tackle comprises at least two loops of the second filament, creating at least a four to one mechanical advantage.

17. (Original) An internal incision sealing device according to claim 14, wherein the second filament is fixed to the cap with at least one stop plug.

18. (Original) An internal incision sealing device according to claim 11, wherein the internal component is an anchor shaped to advance in a low profile configuration through an insertion sheath, and automatically rotate into an expanded configuration upon exit from the insertion sheath and retraction of the sealing device.

19. (Original) An internal incision sealing device according to claim 11, wherein the external component is a collagen sponge.

20. (Original) An internal incision sealing device according to claim 11, wherein the internal component, the external component, and the first slip-knotted filament are biologically resorbable.

21. (Original) An internal incision sealing device according to claim 11, wherein the first slip-knotted filament is attached or looped through the block and tackle, and threads through the external component, through a hole in the internal component, and is knotted proximal of the external component.

22. (Original) An internal incision sealing device according to claim 11, wherein the block and tackle comprises a plate with at least two holes extending through.

23. (Original) An internal incision sealing device according to claim 22, wherein the plate has at least two riser portions to prevent interference between loops of a second filament comprising the block and tackle.

24. (Currently Amended) An arteriotomy sealing device, comprising:

an anchor shaped to advance in a low profile configuration and rotate into an expanded configuration when retracted;

a collagen sponge connected in a loop to the anchor by a biologically resorbable filament; wherein tension on the biologically resorbable filament compresses the collagen sponge and the anchor together; and

a block and tackle positioned proximally of the anchor~~[[,]]~~ and the collagen sponge, ~~and the biologically resorbable filament~~, and operatively connected to the biologically resorbable filament for generating a mechanical advantage when the anchor is held in a fixed position, wherein the mechanical advantage comprises a ratio greater than 1:1 between an output force used to move the collagen sponge and the anchor together and an input force applied to the device.

25. (Original) An arteriotomy sealing device according to claim 24 wherein the block and tackle is attached to a cap of the sealing device via a second filament.

26. (Previously Presented) An arteriotomy sealing device according to claim 25 wherein the second filament is fixably secured to the cap, loops between the block and the cap at least once to create a pair of parallel lengths of the second filament, and extends out of the cap.

27. (Original) An arteriotomy sealing device according to claim 24 wherein the block and tackle comprises a plate with at least two holes extending through.

28. (Original) An arteriotomy sealing device according to claim 27, wherein the plate has at least two riser portions to prevent interference between filament loops extending through the block.

29-37. (Canceled)

38. (Currently Amended) A tissue puncture closure device comprising:
an anchor and a sealing plug coupled together with a first filament;
a block and tackle ~~coupled to, the first filament connecting a portion of the block and tackle to~~ the anchor and the sealing plug, the block and tackle being configured to provide a mechanical advantage to move the anchor and the sealing plug together when the anchor is held in a fixed position, wherein the mechanical advantage comprises a ratio greater than 1:1 between an output force used to move the anchor and the sealing plug together and an input force applied to the device, wherein the block and tackle is positioned proximally of the anchor~~[[,]]~~ and the sealing plug, ~~and the first filament.~~

39. (Previously Presented) The tissue puncture closure device according to claim 38 wherein the block and tackle includes a second filament that extends multiple times between a proximal end of the tissue puncture closure device and a longitudinally movable plate.

40. (Previously Presented) The tissue puncture closure device according to claim 39 wherein the second filament is configured to be pulled by a user to move the anchor and the sealing plug together.

41. (Previously Presented) The tissue puncture closure device according to claim 39 wherein the movable plate moves toward the proximal end of the tissue puncture closure device when the second filament is pulled.

42. (Previously Presented) The tissue puncture closure device according to claim 39 wherein the first filament couples the movable plate to the anchor and the sealing device.

43. (Previously Presented) The tissue puncture closure device according to claim 38 wherein the sealing plug and the anchor are biologically resorbable.

44. (Currently Amended) A tissue puncture closure assembly, comprising:

- a closure device having a distal and a proximal end;
- a block and tackle disposed in the closure device ~~and~~, a portion of the block and tackle being anchored to the proximal end;
- a first filament extending from the block and tackle;
- an anchor attached to the first filament at the distal end of the tissue puncture closure device;
- a sealing plug attached to the first filament between the anchor and the block and tackle;
- wherein the block and tackle is configured to provide a mechanical advantage to move the sealing plug and the anchor together when the anchor is held in a fixed position, wherein the mechanical advantage comprises a ratio greater than 1:1 between an output force used to move the sealing plug and the anchor together and an input force applied to the closure device, wherein the block and tackle is spaced proximally of the anchor~~[[,]]~~ and the sealing plug, ~~and the first filament;~~
- wherein the block and tackle includes a second filament, the second filament having at least two length portions arranged side-by-side.